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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,903	05/09/2001	Jens Stefan Schneider	10191/1714	7920

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KENYON & KENYON
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

TUNG, TA HSUNG

ART UNIT PAPER NUMBER

1753

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,903

Applicant(s)

SCHNEIDER

ETAL

Examiner

T. TUNG

Group Art Unit

1753

Paper No. 10

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 6/2/03

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 10-19

is/are pending in the application.

Of the above claim(s)

is/are withdrawn from consideration.

☐ Claim(s)

is/are allowed.

☒ Claim(s) 10-19

is/are rejected.

☐ Claim(s)

is/are objected to.

☐ Claim(s)

are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other _____

Office Action Summary

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Art Unit: 1102

Claims 10-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The disclosure regarding the composition of the measuring electrode is still considered to be confusing. Applicant points to page 4, lines 28-31 and page 8, lines 12-13 of the specification as an adequate disclosure for the measuring electrode composition. The examiner does not regard the cited passages to be dispositive of the issue. In fact, the cited passages appear to further confuse.

The wording at page 8, lines 9-11, of the specification, "In addition, the cermet electrode may also contain as an added metal component a noble metal such as gold or silver." appears to suggest that applicant's cermet electrode does not require the presence of the added metal component, since the added metal component is set forth as an alternative. If so, applicant's "cermet" would seem to be different from the "cermet" defined by the Collegiate Dictionary (see the attached copy) as a composite structural material of a heat-resistant compound (a ceramic such as titanium carbide) and a metal (e.g. nickel). It is evident that the added metal (Ni) is not the same as the metal portion (Ti) of the ceramic compound. It is also evident that the added metal component is separate and distinct from the metal portions of the ceramic compound, since it is not stated to be a part thereof. Applicant's examples of the measuring electrode are set forth at page 8, lines 9-10 of the specification as the compounds TiNiNbO_x , FeNiMnO_4 , Mn_2O_3 and

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CeO₂. It is not even clear if the latter two oxides (Mn₂O₃ and CeO₂) can each stand by itself as the measuring electrode, or is just an oxide component of the measuring electrode that can reversibly incorporate oxygen (applicant should clarify this point in his response). Whichever the case, all of these compounds are complex oxides that do not have the added metal component and thus do not appear to be consistent with the dictionary definition of "cermet".

Therefore, it is unclear whether applicant's "cermet" electrode requires the presence of an added metal component (e.g. Au, Ag), and if not, how that electrode would square with the accepted definition of "cermet" in the art.

The subject matter of claim 14 is still considered not to be adequately disclosed. Applicant points to page 6, lines 5-15, as well as original claims 5 and 6, for support. However, the disclosure thereat "the solid electrolyte...is integrated into a layer....and this layer (18) is porous" (original claim 5) appears to suggest a construction of a layer matrix with solid electrolyte material incorporated therein. Is this what applicant really intended? If so, what is the matrix material, and where is the discussion of that in the specification? If applicant merely meant that layer 18 is a porous solid electrolyte layer, why not just simply stated so?

As for the subject matter of claim 15, there does not appear to be any suggestion or hint as to what catalysts or promoters are applicable. Since the purposes of the catalysts and promoters are also not disclosed, a prospective practitioner clearly would not have sufficient information without undue experimentation to practice the invention.

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Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The basis for the subject matter of this claim in the original disclosure is not evident. The specification does not appear to suggest applying a voltage, much less the value of the voltage.

Claims 10-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The new language at line 5 of claim 10 "the first measuring electrode including a cermet electrode" is not understood. The wording appears to suggest an electrode (cermet electrode) within an electrode (first measuring electrode). What does that mean, and where is the support for this in the specification?

Claim 14, line 2 and claim 17, lines 5-6, "the solid electrolyte being integrated into the porous layer" is vague. Does applicant mean incorporating solid electrolyte material into a porous layer matrix, or just a porous solid electrolyte layer?

Claim 19 is not a proper dependent claim in that it is not structurally distinct from its parent claim 10. The term "a potential of $\lambda = 1$ is applied" is a process consideration and is not a valid structural distinction. Also, the wording is vague in that it is not specified where the voltage is being applied.

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Claims 10, 14, 15, 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kohler et al 6,168,700.

Applicant argues that the measuring electrode of the patent does not have a metal oxide component that is capable of reversible incorporation of oxygen.

This argument is not persuasive. An example given by Kohler for the measuring electrode material is $\text{SmTiNi}_{0.03}\text{Nb}_{1.1}\text{O}_6$ (col. 3, line 40). This compound differs from applicant's example TiNiNbO_x (page 8, line 8 of the specification) only in having Sm. There is no evidence whatsoever that the mere presence of Sm would negate the compound's ability to reversibly incorporate oxygen. Thus, the patent's measuring electrode is seen to inherently possess that ability. To overcome this presumption, applicant needs to submit a Rule 132 affidavit or declaration demonstrating by comparison data that the Kohler measuring electrode differs from applicant's measuring electrode in this respect, or cite published works to substantiate the fact that such a difference exists.

In regard to claim 19, it is met by the patent in the same manner as its parent claim 10, since this claim is not structurally distinct from the parent claim.

Claims 10, 12, 13, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al 4,720,335.

Fukushima discloses a first measuring electrode 2 having a composition comprising manganese oxide and Ag, a solid electrolyte 1 and an inner second electrode 3 that can be regarded as a "second measuring electrode". See col. 5, lines 10-36 and example 2 in col. 6. The first

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measuring electrode would inherently have the property of having "substantially no catalytic effect on an establishment of an equilibrium in the gas mixture....including a metal oxide component....capable of reversible incorporation of oxygen" because it has the same composition (manganese oxide and Ag) as an embodiment of applicant's first measuring electrode (page 8, lines 9-11 of the specification).

Example 2 of the patent discloses Ag as the material of inner electrode 3. It is not totally clear if Ag has the ability to catalyze an establishment of an equilibrium in the gas mixture. In order to resolve doubt in applicant's favor, the inner Ag electrode of Fukushima is presumed not to have that ability for the purpose of this rejection. Thus, applicant's claims differ in that respect.

Fukushima at col. 3, line 1 teaches the equivalence of Pt and Ag. Also, example 1 (col. 6) of the patent discloses the inner electrode to be made of Pt. In Fukushima, it would have been obvious to adopt a Pt inner electrode for the embodiment of example 2, because the equivalence of Pt and Ag as an electrode material is taught within the four corners of the same patent. Since Pt is a specific embodiment of applicant's second measuring electrode material (page 7, line 10 of the specification), such an inner Pt electrode in Fukushima would serve to catalyze an establishment of an equilibrium in the gas mixture.

Receipt of a marked-up version of the substitute specification is acknowledged.

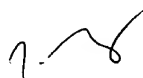
Since the "Series H; Audiovisual and Multimedia Systems" document was not intended as part of an IDS and was not submitted by applicant, it presumably was placed in the application files by error and has been removed therefrom.

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In the specification, page 5, line 19, the spelling of "provided" should be corrected.

The examiner can be reached at 703-308-3329. His supervisor Nam Nguyen can be reached at 703-308-3322. Any general inquiry should be directed to the receptionist at 703-872-0661. A fax number for TC 1700 is 703-872-9311.



Ta Tung

Primary Examiner

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